

REMARKS

This Amendment is submitted in response to the Office Action mailed on December 12, 2007. Claims 9, 12, 18 and 19 have been amended, and claims 9-24 remain pending in the present application. Applicants' counsel appreciates the courtesy extended by Examiner Vu during the telephone interview conducted on March 12, 2008. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

During the telephone interview, Examiner and Applicants' counsel discussed independent claims 9, 12 and 18, which are directed to methods for filling a syringe with contrast media through a fill tube that couples the syringe to the contrast media.

As explained during the telephone interview, and as described in the present application, one of the problems encountered in contrast media injector systems is aeration of the contrast media in the syringe as the syringe is being filled during a filling sequence. In particular, the aeration is caused by air present in the fill tube which causes bubbles in the contrast media as the syringe is being filled.

The conventional solution to this problem is to utilize a maximum fill rate to fill the syringe. This maximum fill rate is designed to avoid causing aeration that is partly dependent on the contrast media, its viscosity and the possible presence of air in the fill tube (see, for example, Page 3, lines 1-10 and Page 12, lines 9-19). Only after

the syringe has been filled with a desired volume of contrast media, the air is expelled from the syringe and it is then coupled to a patient to permit injection of the contrast media into the vasculature of the patient.

Independent claim 9 is directed to a method of performing a filling sequence to fill a syringe with contrast media that includes the steps of first substantially expelling all air from the fill tube and thereafter filling the syringe with contrast media rather than first filling the syringe with contrast media and thereafter expelling air from the syringe as found in Wilson et al. (see Col. 2, lines 6-20, Col. 4, lines 37-48, Col. 5, line 59 through Col. 6, line 27 and Col. 10, lines 4-18).

Independent claim 12 recites the step of expelling substantially all air from the fill tube before resuming filling of the syringe from the second contrast container after the first contrast container is substantially emptied.

The advantage of the methods recited in each of independent claims 9 and 12 is that after the air has been substantially expelled from the fill tube, the syringe may be filled with contrast media at a fill rate (claimed as a "first fill rate") that is faster than the maximum fill rate that would be used to avoid aeration if air has not been previously expelled from the fill tube (claimed as a "second fill rate").

Examiner and Applicants' counsel discussed amendments to each of independent claims 9, 12 and 18 to place these claims in condition for allowance over the prior art of record and to overcome the rejections under 35 U.S.C. §112, second paragraph. As agreed during the interview, Applicants have amended each of

independent claims 9, 12 and 18 to recite a first "fill" rate and a second "fill" rate so it is abundantly clear that the claimed first and second rates relate to a "fill" rate for filling the syringe with contrast media and not to a rate for expelling air from the tube or an injection rate for injecting contrast media into a patient. Examiner indicated that such amendments would overcome the rejections under 35 U.S.C. §112, second paragraph, and the combination of steps recited in each of amended independent claims 9, 12 and 18 is patentable over the prior art of record, including Wilson et al., as discussed during the telephone interview.

Independent claim 18 recites a method of operation for a contrast media injector system. In this method, medical fluid is drawn into a syringe of the contrast media injector system at a first fill rate. Once the medical fluid is drawn into the syringe, a determination is made as to whether or not expulsion of at least some of the medical fluid from the syringe has occurred. After this determination is made, the syringe is filled at the first fill rate if the determination is that at least some of the medical fluid has not been expelled from the syringe. Alternatively, the syringe is filled at a second fill rate that is faster than the first fill rate if the determination is that at least some of the medical fluid has been expelled from the syringe.

Wilson et al. taken alone, or in combination with the other prior art of record, is completely silent with respect to first and second fill rates as recited in independent claim 18.

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Conclusion

In view of the foregoing response including the amendments and remarks, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If there is any issue that remains which may be resolved by telephone conference, Examiner is invited to contact the undersigned in order to resolve the same and expedite the allowance of this application.

Applicants do not believe that this response requires that any fees be submitted, however, if any fees are deemed necessary, these may be charged to Deposit Account No. 23-3000.

Respectfully submitted,

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